

WHAT IS CLAIMED IS:

1. A method of automatically controlling a transmission power of a wireless communication apparatus in order to suppress consumed transmission power, the method comprising the steps of:

setting the transmission power to a maximum value at a start of transmission;

gradually reducing the transmission power by a predetermined amount, each time when transmission succeeds a predetermined number of times; and

in the case of a transmission failure at a transmission power which is gradually reduced by the predetermined amount, determining a power which is higher by the predetermined amount than the transmission power, as an optimum value.

2. The method of claim 1, wherein the transmission failure case is one where transmission fails a predetermined number of times at a same transmission power.

3. The method of claim 1, wherein once the optimum transmission power is set, the optimum transmission power is maintained unless any transmission failure occurs.

4. The method of claim 1, wherein in the case where a non-communication time period reaches a preset time period,

transmission is carried out at the maximum transmission power, from which determination of optimum transmission power is started.

5. The method of claim 1, wherein in the case where a transmission failure occurs after the optimum transmission power is set, transmission power is raised to the maximum value and resetting of optimum transmission power is carried out.

6. The method of claim 1, wherein in the case where transmission fails at the maximum transmission power, retransmission of data is carried out with the maximum transmission power maintained.

7. The method of claim 1, wherein in the case where transmission fails a predetermined number of times after the optimum transmission power is set, the transmission power is raised to the maximum value and resetting of optimum transmission power is carried out.

8. A storage medium on which a method of automatically controlling a transmission power of a wireless communication apparatus in order to suppress consumed transmission power is stored, the method comprising:

setting transmission power to a maximum value at a start of communication;

thereafter gradually reducing the transmission power by a predetermined amount each time when transmission succeeds a predetermined number of times; and

in the case where transmission fails at a gradually reduced transmission power, determining a power higher than the gradually reduced transmission power as an optimum transmission power.

9. The storage medium of claim 8, wherein the case where transmission fails is one where transmission at a same transmission power fails a predetermined plural number of times.

10. The storage medium of claim 8, wherein after the optimum transmission power is set, the optimum transmission power is maintained until any transmission failure occurs.

11. The storage medium of claim 8, wherein in the case where a non-communication time period reaches a preset time period, transmission power is raised to the maximum value and setting of optimum transmission power is carried out.

12. The storage medium of claim 8, wherein in the case where transmission fails after the optimum transmission power is set, transmission power is raised to the maximum value and setting of optimum transmission power is again carried out.

13. The storage medium of claim 8, wherein in the case where transmission fails at the maximum transmission power, retransmission of data is carried out with the maximum transmission power maintained.

14. The storage medium of claim 8, wherein in the case where transmission fails a predetermined number of times after the optimum transmission power is set, transmission power is raised to the maximum value and setting of optimum transmission power is again carried out.

15. A method of automatically controlling a transmission power of a wireless communication apparatus in order to suppress the transmission power, comprising:

setting transmission power at a start of communication to a maximum value;

each time when transmission succeeds a predetermined number of times, gradually reducing the transmission power by a predetermined amount;

in the case where transmission at a transmission power which is gradually reduced by the predetermined amount fails, determining a power higher than the transmission power by the predetermined amount as an optimum transmission power; and,

after the optimum transmission power is set, maintaining the optimum transmission power unless any transmission failure

occurs.

16. The method of claim 15, wherein in the case where transmission fails after the optimum transmission power is set, transmission power is raised to a maximum value and setting of optimum transmission power is again carried out.

17. The method of claim 15, wherein when a non-communication time period reaches a preset time period, transmission power is raised to a maximum value and setting of optimum transmission power is again carried out.

18. The method of claim 15, wherein the transmission failure case is a case where transmission at a same transmission power fails a predetermined plural number of times.

19. The method of claim 15, wherein in the case where transmission fails at the maximum transmission power, retransmission is carried out with the transmission power maintained at the maximum value.

20. The method of claim 15, wherein in the case where transmission fails a predetermined number of times after the optimum transmission power is set, transmission power is raised to a maximum value and setting of optimum transmission power

is again carried out.